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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/314,493	05/18/99	LIN	P PTLIN-9801

MM92/0426

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EXAMINER	
COLLINS,D	
ART UNIT	**PAPER NUMBER**
2823	#4

DATE MAILED: 04/26/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/314,493	LIN
Examiner	**Group Art Unit**
Deven M. Collins	2823

☒ Responsive to communication(s) filed on 2-7-00.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-21 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mok (5,703,753, dated 12/30/97) in view of Otsuka (5,949,142, dated 9/7/99) and Inoue (5,909,010, dated 6/1/99) and Lin (6,002,178, dated 12/14/99).

Mok shows the method as claimed in Figures 1-12 with corresponding text. Mok discloses a mounting assembly for a multiple chip module 13 or other circuit module, which includes a printed wiring board 11 having a surface including an array of board contacts 23, a thermally conductive base 15, a first substrate, a second substrate, conductors 21 connecting the interconnect structure 12, a connector between the board and the second substrate, a heat spreader assembly 14, and a fastener which fastens the thermally conductive base 15 to the board and to the heat spreader assembly 14.

However, Mok does not show a chip size package.

Otsuka discloses a chip size package constituted by a chip 2 on which an integrated circuit is formed, and plated bumps 2a are formed at terminal portions of the integrated circuit, a flexible two-layered printed-circuit board 4 having interlevel conductive bumps 4c for electrically connecting metal patterns 4a formed on the two surfaces of the flexible board, and an anisotropic conductive film 6 for electrically connecting the plated bumps arranged on the chip.

Inoue discloses a CSP (Chip Size Package) including a semiconductor IC chip 5 having input/output terminals 71 along its edges. A small size substrate 1 has a smaller contour than the chip and has a plurality of metal terminals 24 arranged along the edges of its bottom, and a plurality of metal bumps 12 arranged on its top in a lattice configuration.

Lin discloses a chip size package (CSP) ready multiple chip module (MCM) board having a top surface and a bottom surface for mounting and packaging a plurality of integrated circuit (IC) chips on the top surface.

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Mok to include a chip size package because of reasonable expectation of achieving the specific result of reducing the production costs without degrading product reliability.

Response to Arguments

3. Applicant's amendment to claims 1-6 and addition of 7-21 are acknowledged.

4. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

New references disclosing mounting have been added.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Deven M. Collins whose telephone number is (703) 305-7840. The examiner can normally be reached on Monday-Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy, can be reached on (703) 308-4918. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

DMC

April 24, 2000

Kevin M. Picardat
Primary Examiner